

## Message Text

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ACTION SCI-06

INFO OCT-01 EUR-25 ISO-00 AID-20 CEQ-02 CIAE-00 COA-02

DODE-00 EB-11 EPA-04 INR-10 IO-14 L-03 NSF-04 NSC-10

NSAE-00 PM-07 RSC-01 SS-20 SPC-03 FEA-02 SAM-01 PA-04

PRS-01 USIA-15 INT-08 ACDA-19 OMB-01 TRSE-00 CIEP-02

DRC-01 /197 W

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R 061457Z FEB 74

FM AMEMBASSY LONDON

TO SECSTATE WASHDC 7741

INFO USMISSION EC BRUSSELS

USAEC WASHDC

USDOC WASHDC

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E.O. 11652: N/A

TAGS:

SUBJECT: ENERGY: BBC1-TV "PANORAMA" PROGRAM ON HMG

NUCLEAR REACTOR CHOICE

BEGIN SUMMARY: AN HOUR-LONG BBC1-TV PROGRAM ON BRITISH NUCLEAR POWER PROGRAM FOCUSSED ENTIRELY ON QUESTION OF PAST AND FUTURE POWER REACTOR CHOICE OF CEGB.

OPERATING HISTORY AND FAILURES OF AGR'S WERE STRESSED TOGETHER WITH RELATIVELY WELL-BALANCED PRESENTATION ON AMERICAN-DESIGNED LWR'S. SAFETY QUESTIONS RECEIVED CONSIDERABLE ATTENTION. LESS TIME WAS SPENT ON SGHWR AND CANADIAN CANDU, WHICH SEEMED TO BE SLIGHT FAVORITES OF PROGRAM PRODUCERS, AS WELL AS MEMBERS OF HOUSE OF COMMONS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY WHO APPEARED ON PANEL. END SUMMARY.

1. BBC-1 "PANORAMA" GAVE ONE HOUR OF PRIME TIME FEB.4 TO REVIEW OF BRITISH NUCLEAR POWER PROGRAM. FOLLOWING UNCLASSIFIED

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WERE EITHER PERSONALLY INTERVIEWED OR APPEARED IN PANEL

DISCUSSION: FORMER CENTRAL ELECTRICITY GENERATING BOARD (CEGB) CHAIRMEN HINTON (1955-1964) AND BROWN (1965-1972); TWO MEMBERS OF HOUSE OF COMMONS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY, ARTHUR PALMER MP (CHAIRMAN) AND AIREY NEAVE MP; CEGB BOARD MEMBER DONALD CLARK; TECHNICAL ADVISER, NATIONAL NUCLEAR COMPANY, JAMES STEWART; U.K. REACTOR GROUP CHIEF R.V. MOORE; WESTINGHOUSE OFFICIAL, DR. ARNOLD, AND MIT PROFESSOR KENDALL.

2. CONSIDERABLE TIME WAS SPENT REVIEWING CONSTRUCTION DIFFICULTIES AND FINANCIAL COSTS OF ADVANCED GAS COOLED REACTOR (AGR) PROGRAM. MAGNOX (AN EARLY GAS COOLED REACTOR) WAS GIVEN HIGH MARKS BUT SEEN AS TOO COSTLY VIS-A-VIS LWR'S (500 MILLION POUNDS VERSUS 300 MILLION POUNDS PER REACTOR).

3. RE LIGHT WATER REACTORS (LWR'S) BBC NOTED 43 PLANTS WERE OPERATING, 51 WERE IN COURSE OF BEING BUILT AND THAT OVER 100 MORE HAD BEEN ORDERED BOTH IN U.S. AND IN DOZEN COUNTRIES AROUND THE WORLD. SPECIAL COVERAGE GIVEN TO WESTINGHOUSE ZION REACTOR IN CHICAGO WITH EMERGENCY CORE COOLING SYSTEM (ECCS) PROBLEM GIVEN EXTENDED BUT FAIR TREATMENT. IT WAS ALSO NOTED THAT NUCLEAR FUEL DIFFICULTIES LIMITED REACTOR TO 85 PER CENT ZION OUTPUT (TERM "DE-RATING" NOT USED). THE WESTINGHOUSE SIMULATED PLANT TRAINING CENTER WAS SHOWN WITH FOLLOW-UP OF HALF DOZEN NUCLEAR POWER PLANT ACCIDENTS HIGHLIGHTED AND NO EXPLANATION OF CAUSES GIVEN.

4. MIT PROFESSOR KENDALL ARGUED THAT THERE ARE IDENTIFIABLE DESIGN AND CONSTRUCTION DIFFICULTIES WHICH MAKE LWR'S UNSAFE AND THAT CURRENT DEFENSES IN DEPTH ARE NOT SUFFICIENT FOR HANDLING LARGE ACCIDENTS. HE SPECIFICALLY MENTIONED CORE MELT DOWN AND RUPTURE OF PRESSURE VESSEL, NOTING E.C. WILLIAMS, DEPARTMENT OF ENERGY'S CHIEF NUCLEAR INSPECTOR WAS CONCERNED ABOUT THIS PROBLEM, KENDALL ALSO REFERRED TO USAEC'S "SECRET STUDIES" WHICH STATED THAT U.S. PROGRAM IS "BESEIGED BY UNCLASSIFIED

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SAFETY PROBLEMS." KENDALL CONTENDED THAT IT IS NOT A QUESTION OF COUNTING HOW MANY CRITICS EXIST BUT HOW RIGHT THE MINORITY MAY BE.

5. DR. ARNOLD OF WESTINGHOUSE NOTED GREAT MAJORITY OF CRITICS APPROVED OF LWR SAFETY AND MINORITY HAVE BEEN ADEQUATELY ANSWERED. ON PROBABILITY OF LARGE ACCIDENT, HE ESTIMATED THAT IN OPERATION OF 1,000 REACTORS, THERE

WAS AN EXPECTATION OF ONLY ONE ACCIDENT IN 10,000 REACTOR YEARS. HE EMPHASIZED IMPORTANCE OF REDUNDANCY BUT THOUGHT IT WAS UNNECESSARY FOR UK TO ADOPT A FOURTH LINE OF DEFENSE AGAINST PRESUMED VESSEL RUPTURE.

6. IN PANEL DISCUSSION, CHAIRMAN OF ENERGY RESOURCES SUB-COMMITTEE OF HOUSE OF COMMONS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY, ARTHUR PALMER OBSERVED THAT CEGB HAD BEEN SO WRONG IN PAST THAT HE COULD NOT PLACE

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DRC-01 /197 W

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MUCH CONFIDENCE IN ITS CURRENT REACTOR CHOICE. HE POINTED TO CONFLICT OF EVIDENCE IN THAT CEGB CHAIRMAN HAWKINS HAD SAID ONLY 18 MONTHS AGO THERE WOULD BE NO MORE NEED F\*R REACTOR ORDERS FOR THE FORESEEABLE FUTURE. BASICALLY, HOWEVER, PALMER'S OPPOSITION TO LWR'S WAS BASED ON SAFETY ISSUE. FELLOW MP NEAVE REFERRED TO TWO YEAR DELAY IN SAFETY REVIEW OF LWR'S WHICH CHIEF NUCLEAR INSPECTOR WILLIAMS THOUGHT POSSIBLE, AS WELL

AS PRESSURE VESSEL DIFFICULTY. BOTH MEMBERS ADVOCATED ADOPTION OF PROVEN BRITISH TECHNOLOGY AS ALTERNATE TO CEGB'S CHOICE OF PWR.

7. CEGB BOARD MEMBER DONALD CLARK IN REPLY SAID HAWKINS HAD BEEN REFERRING TO SHORT TERM SITUATION WHEN TESTIFYING 18 MONTHS AGO. MOREOVER, BRITAIN'S CURRENT PROBLEMS WITH COAL AND OIL SHORTAGES UNDERLINED NEED FOR RAPID DECISION ON NUCLEAR POWER PROGRAM. HOPED FOR DEVELOPMENT OF HIGH TEMPERATURE REACTORS (HTR'S) ALONG WITH AGR'S NO LONGER REALISTIC POSSIBILITY IN UNCLASSIFIED

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SHORT TERM. CLARK CONTENDED CEGB HAS LEARNED FROM ITS OWN MISTAKES AND OTHER COUNTRIES' EXPERIENCE, AND THUS WAS OPTING FOR PROVEN U.S. DESIGN. HE ADDED THAT DEMAND HAS GROWN SUFFICIENTLY IN LAST YEAR AND HALF WHICH, TOGETHER WITH DRAMATIC CHANGE IN OIL SUPPLY SITUATION, REQUIRED THAT NUCLEAR PLANT BE BUILT BY 1980.

8. NATIONAL NUCLEAR COMPANY OFFICIAL, JAMES STEWART, WAS CONVINCED THAT POSSIBILITY OF SERIOUS PRESSURE VESSEL FAILURE IS SO LOW THAT IT IS AN INDUSTRIALLY AND SOCIALLY ACCEPTABLE RISK. HE ADDED NUCLEAR DESIGN TECHNIQUES WILL IMPROVE SITUATION EVEN FURTHER.

IN REPLY TO QUESTION BY MP NEAVE AS TO WHY CHIEF NUCLEAR INSPECTOR HAS NOT YET RECEIVED LWR DESIGN, STEWART ANSWERED THAT DESIGN AND REACTOR ORDER WILL BE BASED ON VESSEL NOW BEING PROVEN IN U.S. CHIEF NUCLEAR INSPECTOR, THEREFORE, SHOULD BE ABLE TO EXAMINE ANY DESIGN PROBLEMS IN SHORT ORDER. HE ALSO OBSERVED THAT ON BASIS OF CEGB IWANS, BUILDING OF REACTOR WILL NOT ACTUALLY BEGIN FOR TWO YEARS. HE HOPED FOR EARLIER INDICATION OF THE NUCLEAR INSPECTOR'S VIEWS ON SAFETY.

9. UK AEA REACTOR GROUP OFFICIAL, R.V. MOORE, ARGUED THAT AGR'S ARE NOT A FAILURE AND WITH WELL-MANAGED DESIGN AND CONSTRUCTION, THEY WOULD BE SUCCESSFUL. CLARK OF CEGB SAID THAT IN ANY EVENT THEY WERE A FINANCIAL DISASTER.

10. FORMER CEGB BOARD CHAIRMAN HINTON SAID MJ WOULD BE VERY HESITANT TO OPT FOR A LWR. HE BELIEVED UGLS. HAD "FORCED" DEVELOPMENT OF LWR TECHNOLOGY, FUEL ELEMENTS AND PRESSURE VESSELS (PRESUMABLY BEYOND ACCEPTABLE LIMITS). IF PRESSED, HE SAID HE WOULD PROBABLY OPT FOR CONTINUATION OF AGR'S, COMBINED WITH DEVELOPMENT OF STEAM GENERATING HEAVY WATER REACTOR (SGHWR), AND CANDU IN COLLABORATION WITH CANADIANS. ALTERNATIVELY,

HE WOULD SELECT CANDU. CLARK OBSERVED THAT THIS WOULD  
BE STARTING UP ALL OVER AGAIN WITH NEW DESIGN WHILE  
BUILDING OF LWR WOULD BE 53RD OF ITS KIND, AS WELL AS  
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SECOND OF SIZE SIMILAR TO ONE NOW OPERATING IN U.S.  
PALMER CONCLUJSD THAT UNTIL HTR AND FAST BREEDERS ARE DEVELOPED, UK  
SHOULD USE "PROVEN" BRITISH DESIGN OF  
SUCH AS SUGGESTED BY CHAIRMAN OF SOUTH OF SCOTLAND  
ELECTRICITY BOARD.  
CLARK ENDED THIS PART OF DISCUSSION BY NOTING CEGB WAS  
CONFIDENT OF APPROVAL BY CHIEF NUCLEAR INSPECTOR AND  
THAT BRITAIN WOULD BE BUYING LWR DESIGN, NOT U.S.  
REACTORS PER SE.

11. PROGRAM MODERATOR CONCLUDED SAYING "GOD HELP THE  
MINISTER WHO HAS TO DECIDE."

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## Message Attributes

**Automatic Decaptioning:** X  
**Capture Date:** 01 JAN 1994  
**Channel Indicators:** n/a  
**Current Classification:** UNCLASSIFIED  
**Concepts:** NUCLEAR ENERGY, NUCLEAR SAFETY, TELEVISION BROADCASTING  
**Control Number:** n/a  
**Copy:** SINGLE  
**Draft Date:** 06 FEB 1974  
**Decaption Date:** 01 JAN 1960  
**Decaption Note:**  
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**Page Count:** 5  
**Previous Channel Indicators:**  
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**Previous Handling Restrictions:** n/a  
**Reference:** n/a  
**Review Action:** RELEASED, APPROVED  
**Review Authority:** golinofr  
**Review Comment:** n/a  
**Review Content Flags:**  
**Review Date:** 25 FEB 2002  
**Review Event:**  
**Review Exemptions:** n/a  
**Review History:** RELEASED <25 FEB 2002 by elbezefj>; APPROVED <31 MAY 2002 by golinofr>  
**Review Markings:**

Declassified/Released  
US Department of State  
EO Systematic Review  
30 JUN 2005

**Review Media Identifier:**  
**Review Referrals:** n/a  
**Review Release Date:** n/a  
**Review Release Event:** n/a  
**Review Transfer Date:**  
**Review Withdrawn Fields:** n/a  
**Secure:** OPEN  
**Status:** NATIVE  
**Subject:** ENERGY: BBC1-TV "PANORAMA" PROGRAM ON HMG NUCLEAR REACTOR CHOICE  
**TAGS:** ENRG, UK  
**To:** STATE  
**Type:** TE  
**Markings:** Declassified/Released US Department of State EO Systematic Review 30 JUN 2005